(b) The stored hydraulic pressure must be automatically maintained within the predetermined pressure limits.

(c) The means of automatically maintaining the hydraulic system within the predetermined pressure limits must be electrically energized from the final emergency bus.

(d) There must be a means to manually recharge the hydraulic system.

(e) Charging of the hydraulic starting system must not cause insufficient hydraulic pressure for engine starting.

[CGD 74–125A, 47 FR 15267, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28287, June 4, 1996]

### § 112.50–5 Electric starting.

An electric starting system must have a starting battery with sufficient capacity for at least six consecutive starts. A second, separate source of starting energy may provide three of the required six starts. If a second source is provided, the electrical starting system need only provide three consecutive starts.

[CGD 94–108, 61 FR 28288, June 4, 1996]

### § 112.50–7 Compressed air starting.

A compressed air starting system must meet the following:

(a) The starting, charging, and energy storing devices must be in the emergency generator room, except for the main or auxiliary air compressors addressed in paragraph (c)(3)(i) of this section.

(b) The compressed air starting system must provide the cranking torque and engine starting RPM recommended by the engine manufacturer.

(c) The compressed air starting system must have an air receiver that meets the following:

(1) Has a capacity for at least six consecutive starts. A second, separate source of starting energy may provide three of the required consecutive starts. If a second source is provided, the compressed air starting system need only provide three consecutive starts.

(2) Supplies no other system.

(3) Is supplied from one of the following:

(i) The main or auxiliary compressed air receivers with a nonreturn valve in the emergency generator room and a handcranked, diesel-powered air compressor for recharging the air receiver.

(ii) An electrically driven air compressor that is automatically operated and is powered from the emergency power source. If this compressor supplies other auxiliaries, there must be a non-return valve at the inlet of the starting air receiver and there must be a handcranked, diesel-powered air compressor for recharging the air receiver.

[CGD 74–125A, 47 FR 15267, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996]

## Subpart 112.55—Storage Battery Installation

### § 112.55–1 General.

Each storage battery installation must meet Subpart 111.15 of this chapter.

### § 112.55–5 Emergency lighting loads.

When supplying emergency lighting loads, the storage battery initial voltage must not exceed the standard system voltage by more than 5 percent.

### § 112.55–10 Storage battery charging.

(a) Each storage battery installation for emergency lighting and power, and starting batteries for an emergency diesel or gas turbine driven generator set, must have apparatus to automatically maintain the battery fully charged.

(b) When the ship's service generating plant is available, the battery must have a continuous trickle charge, except that after discharge the battery must be charged automatically at a higher rate.

(c) Charging operations must not cause an absence of battery power.

(d) There must be instruments to show the rate of charge.

### § 112.55–15 Capacity of storage batteries.

(a) A storage battery for an emergency lighting and power system must have the capacity—

(1) To close all watertight doors two times;

(2) To open all watertight doors once; and

(3) To carry the remaining emergency loads continuously for the time prescribed in §112.05–5(a), table 112.05–5(a).

(b) At the end of the time specified in paragraph (a) of this section, the potential of the storage battery must be at least 88 percent of the standard voltage.

[CGD 74–125A, 47 FR 15267, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996; 61 FR 39695, July 30, 1996]

# PART 113—COMMUNICATION AND ALARM SYSTEMS AND EQUIPMENT

## Subpart 113.05—General Provisions

Sec.

113.05–5 Approved equipment.
113.05–7 Environmental tests.

## Subpart 113.10—Fire and Smoke Detecting and Alarm Systems

113.10–1 Approved equipment.
113.10–3 Cable runs.
113.10–5 Common return.
113.10–7 Connection boxes.
113.10–9 Power supply.

## Subpart 113.20—Automatic Sprinkler Systems

113.20–1 Sprinkler alarm system.
113.20–3 Connection boxes.

## Subpart 113.25—General Emergency Alarm Systems

113.25–1 Applicability.
113.25–3 Requirements.
113.25–5 Location of contact makers.
113.25–6 Power supply.
113.25–7 Power supply overcurrent protection.
113.25–8 Distribution of general emergency alarm system feeders and branch circuits.
113.25–9 Location of general emergency alarm signal.
113.25–10 Emergency red-flashing lights.
113.25–11 Contact makers.
113.25–12 Alarm signals.
113.25–14 Electric cable and distribution fittings.
113.25–15 Distribution panels.
113.25–16 Overcurrent protection.
113.25–20 Marking of equipment.
113.25–25 General emergency alarm systems for manned ocean and coastwise barges.
113.25–30 General emergency alarm systems for barges of 300 or more gross tons with sleeping accommodations for more than six persons.

## Subpart 113.27—Engineers' Assistance-Needed Alarm

113.27–1 Engineers' assistance-needed alarm.

## Subpart 113.30—Internal Communications

113.30–1 Applicability.
113.30–3 Means of communications.
113.30–5 Requirements.
113.30–20 General requirements.
113.30–25 Detailed requirements.

## Subpart 113.35—Engine Order Telegraph Systems

113.35–1 Definitions.
113.35–3 General requirements.
113.35–5 Electric engine order telegraph systems.
113.35–7 Electric engine order telegraph systems; operations.
113.35–9 Mechanical engine order telegraph systems.
113.35–13 Mechanical engine order telegraph systems; operation.
113.35–15 Mechanical engine order telegraph systems; application.
113.35–17 Vessels with navigating bridge control.

## Subpart 113.37—Shaft Speed and Thrust Indicators

113.37–1 Applicability.
113.37–5 General requirements.
113.37–10 Detailed requirements.

## Subpart 113.40—Rudder Angle Indicator Systems

113.40–1 Applicability.
113.40–5 General requirements.
113.40–10 Detailed requirements.

## Subpart 113.43—Steering Failure Alarm Systems

113.43–1 Applicability.
113.43–3 Alarm system.
113.43–5 Power supply.

## Subpart 113.45—Refrigerated Spaces Alarm Systems

113.45–5 General requirements.

## Subpart 113.50—Public Address Systems

113.50–1 Applicability.
113.50–5 General requirements.
113.50–10 Additional requirements for passenger vessels.
113.50–15 Loudspeakers.
113.50–20 Distribution of cable runs.